Overlooked uncertainties...

Victor, Isabelle, and more?

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Outline

Introduction

1. the baby: with climate change, we need to safeguard and adapt forests, as they play a major role in mitigating its effects
2. the werewolf: most decisions rely on niche models, which may not be reliable in new climates. This can mask significant uncertainties and ultimately threaten the success of forest management decisions
3. the silver bullet: consider a greater diversity of models (scientific approaches, hypothesis) to make projections, gain a better understanding of uncertainties in order to support sustainable forest management practices

Results, discussion

1. models, methodology = significant and often overlooked source of uncertainty, even greater than variability of different climate projections
2. niche models systematically bias projections towards more pessimistic scenarios
3. which implications in terms of forest management?
   (a) on average, more nuanced projections = more possibilities to act? more adaptation measures
   (b) but high uncertainties may lead to *laissez-faire*
   (c) we want to avoid that, how to translate uncertainties into decision-making?
   → favor forest adaptation strategies resilient to a wide range of possible future conditions.
4. looking ahead: a call to action for both:
   (a) the scientific community:
   substantial progress required to develop more reliable projections
   proper evaluation of the transferability?
   integration of fewer, but more robust models that incorporate mechanistic understanding? simple models can also be great!
   going further into uncertainty evaluation? (parameter uncertainty is totally ignored in process-explicit models...) → us, as scientists, we need to expose these uncertainties if we want forest managers to tackle them (transparency)!
   (b) forest managers, policy makers:
   rethink the way species distribution modeling is applied to forest management
   (afraid here to repeat what I said in "how to translate uncertainties into decision-making"... may need to think about a different plan)